

# PATENT COOPERATION TREATY

SEP 01 1999

From the INTERNATIONAL SEARCHING AUTHORITY

To: KRISTINA BIEKER-BRADY  
CLARK & ELBING LLP  
176 FEDERAL STREET  
BOSTON, MA 02110-2214

**PCT**

## NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT OR THE DECLARATION

(PCT Rule 44.1)

**DOCKETED FOR  
ATTORNEY ATTENTION**

**RECEIVED**

SEP 01 1999

**CLARK & ELBING**

Date of Mailing  
(day/month/year)

**27 AUG 1999**

Applicant's or agent's file reference  
00246/505W03

**FOR FURTHER ACTION** See paragraphs 1 and 4 below

International application No.  
PCT/US99/09034

International filing date  
(day/month/year)  
27 APRIL 1999

Applicant  
PRESIDENT AND FELLOWS OF HARVARD COLLEGE

1. ☒ The applicant is hereby notified that the international search report has been established and is transmitted herewith.  
**Filing of amendments and statement under Article 19:**  
 The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):  

**When?** The time limit for filing such amendments is normally 2 months from the date of transmittal of the international search report; however, for more details, see the notes on the accompanying sheet.

**Where?** Directly to the International Bureau of WIPO  
 34, chemin des Colombettes  
 1211 Geneva 20, Switzerland  
 Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.
2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.
3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:
  - ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.
  - ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.
4. **Further action(s):** The applicant is reminded of the following:
 

Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in rules 90 bis 1 and 90 bis 3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the ISA/US  
Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

Authorized officer  
V. RYAN *Laurence Fa*

Facsimile No. (703) 305-3230

Telephone No. (703) 308-0196

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 00246/505W03	FOR FURTHER ACTION	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. PCT/US99/09034	International filing date (day/month/year) 27 APRIL 1999	(Earliest) Priority Date (day/month/year) 27 APRIL 1998
Applicant PRESIDENT AND FELLOWS OF HARVARD COLLEGE		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. ☐ Certain claims were found unsearchable (See Box I).
2. ☐ Unity of invention is lacking (See Box II).
3. ☒ The international application contains disclosure of a nucleotide and/or amino acid sequence listing and the international search was carried out on the basis of the sequence listing
  - ☒ filed with the international application.
  - ☐ furnished by the applicant separately from the international application,
    - ☐ but not accompanied by a statement to the effect that it did not include matter going beyond the disclosure in the international application as filed.
  - ☐ transcribed by this Authority.
4. With regard to the title,
  - ☒ the text is approved as submitted by the applicant.
  - ☐ the text has been established by this Authority to read as follows:
5. With regard to the abstract,
  - ☒ the text is approved as submitted by the applicant.
  - ☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.
6. The figure of the drawings to be published with the abstract is:  
Figure No. \_\_\_\_\_
  - ☐ as suggested by the applicant.
  - ☐ because the applicant failed to suggest a figure.
  - ☐ because this figure better characterizes the invention.

☒ None of the figures.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US99/09034

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) : Please See Extra Sheet.

US CL : Please See Extra Sheet.

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 424/130.1, 184.1, 234.1, 260.1; 435/4,183; 536/23.1, 23.7, 24.32

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

APS, DIALOG, STN

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	O'TOOLE, G. et al. Flagellar and twitching motility are necessary for <i>Pseudomonas aeruginosa</i> biofilm development. <i>Molecular Microbiology</i> . 1998, Vol 30, No 2, pages 295-304.	1-39
A	O'TOOLE, G. et al. Initiation of Biofilm Formation in <i>Pseudomonas fluorescens</i> WC365 Proceeds via Multiple, Convergent Signalling Pathways: A Genetic Analysis. <i>Molecular Microbiology</i> . 1998, Vol. 28, No. 3, pages 449-461.	1-39
A,E	COSTERTON, J. et al. Microbial Biofilms. <i>Annual Review of Microbiology</i> . 1995, Vol. 49, pages 711-745.	1-39

☒ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
*A* document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
*E* earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*Z* document member of the same patent family
*O* document referring to an oral disclosure, use, exhibition or other means	
*P* document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

20 JULY 1999

Date of mailing of the international search report

27 AUG 1999

 Name and mailing address of the ISA/US  
 Commissioner of Patents and Trademarks  
 Box PCT  
 Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

V. RYAN

Telephone No. (703) 308-0196

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US99/09034

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A,E	WATNICK, P. et al. A Role for the Mannose-Sensitive Hemagglutinin in Biofilm Formation by <i>Vibrio cholerae</i> El Tor. <i>Journal of Bacteriology</i> . June 1999, Vol.181, No. 11, pages 3606-3609.	1-39
A	GOTTESMAN, S. et al. Regulation by Proteolysis: Energy-Dependent Proteases and Their Targets. <i>Microbiological Reviews</i> . December 1992, Vol. 56, No 4, pages 592-621.	1-39
A	GENEVAUX, P. et al. A Rapid Screening Procedure to Identify mini-Tn10 Insertion Mutants of <i>Escherichia coli</i> K-12 with Altered Adhesion Properties. <i>FEMS Microbiology Letters</i> . 1996, Vol.142, pages 27-30.	1-39
A	GRAF, J. et al. Effect of Transposon-Induced Motility Mutations on Colonization of the Host Light Organ by <i>Vibrio fischeri</i> . <i>Journal of Bacteriology</i> . 1994, Vol. 176, No. 22, pages 6986-6991.	1-39

INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US99/09034

A. CLASSIFICATION OF SUBJECT MATTER:

IPC (6):

A61K 39/395, 39/00, 39/38, 39/02, 39/108; C12Q 1/00; C12N 9/00; C07H 21/02, 21/04

A. CLASSIFICATION OF SUBJECT MATTER:

US CL :

424/130.1, 184.1, 234.1, 260.1; 435/4,183; 536/23.1, 23.7, 24.32